

October 5, 2003

Dear Commissioners:

If I am understanding the NOI, we are to give some technical ruminations without irrational worries over rf interference potentials, and you've asked if there might not be some frequencies that should be protected. Many amateur radio operators commented that they had valid cause for concern over interference, and the ARRL submitted studies documenting the validity of their concerns. Industry replied that the hams were panicking and the ARRL using BPL concerns as a pretext to raise money.

Okay, I am an amateur radio operator. Where might my irrational concerns originate? I am looking at a cartoon¹ depicting a happy couple in front of a light bulb. The woman says to her honey, "Just think, Waldo, the electricity in that light came all the way from Niagra Falls where we just spent our honeymoon!" Obviously, there is some intangible element attaching to that electricity, just as, for example, I might think of Tesla's experiments in conjunction with Falls electricity.

Likewise, perhaps I, and other amateurs, have a kind of gut reaction to hearing about more Part 15 radiation coming from power lines. I mean, I've had various dealings with the neighbors and the power company over Part 15 issues already, and they have not all been pleasant experiences. Other hams have fared similarly, so when we hear, Part 15, power lines, we are not going to go google-eyed like the recently honeymooning couple. No, we will react more like Tesla's neighbors and his power company did to his experiments.

But is that a bad thing?

Psychologists believe that people use two different mental systems for thinking about risk. The first is logical and analytical. The other is intuitive and emotional. The intuitive is based on images burned into your brain during past experiences--and it often trumps the analytical one. Hard facts may say you're in no danger, but you think: Something here doesn't feel right.

Gut instinct has helped us survive over the course of human evolution. But gut instinct can backfire. ...

Feelings alone can also cause us to make illogical calculations. A 1993 experiment offered people a chance to win a dollar by drawing a red jelly bean from one of two bowls. One bowl had 100 beans, 7 of them red. The other had 10 beans, only 1 red. Many people preferred the bowl with the 7 red beans. They knew their odds were worse, but they said they *felt* as if they had a better chance.

In another experiment clinicians were far more likely to release a mental patient from a hospital if told he had a 20 percent chance of becoming violent than if

¹The Best of H.T. Webster, New York: Simon & Schuster 1953,
p45

told 20 out of 100 such patients would become violent. The second scenario, though statistically equivalent to the first, created a visual image of violent patients.

A savvy risk analyzer uses both the emotional and analytical systems to make good decisions, says psychologist Paul Slovic of the University of Oregon. "You need your feelings to put a cross-check on your analysis, and you need analysis to keep your feelings in check."²

You know, asking us not to develop any gut reaction to what the government says is good for us, well, is counter intuitive. The better request is to tell us to test our gut reactions before giving them credence. But that is exactly what the ARRL did, and why it needed some money to do it right. It ran the tests required to discover that indeed BPL poses substantial risk of overwhelming interference to the users of HF and low VHF.

The one who hasn't tested BPL in the field for interference to HF and low VHF users is the industry developing BPL. What does that remind us of? I give you the following story from *Wired Magazine* of a BPL scheme that was heavily financed, considered "God's gift," was presented to the FCC, had government support, but wasn't tested.

To be continued after you've read the article which I now submit.

²Joel Achenbach, *Washington Post* staff writer, "Time to Hit the Panic Button?" *How we decide what's risky*, *National Geographic*, 9/03